

CLAIMS

What is claimed is:

1. An implant implantation device, comprising:
 - (i) a frame having a trigger mechanism;
 - (ii) an outer sleeve mechanically coupled to the frame;
 - (iii) an inner shaft having a grabber for mechanically engaging an implant, the inner shaft slidably disposed within the outer sleeve; and
 - (iv) a retaining element for directing the grabber toward a closed position.
2. The device of claim 1, wherein the retaining element is a spring.
3. The device of claim 1, further including a knob mechanically coupled to the outer sleeve, the knob causing the outer sleeve and the inner shaft to be rotated about the frame.
4. The device of claim 1, further including a drag adjustment screw rotatably coupled to the frame for providing tension between the trigger mechanism and the inner shaft.
5. The device of claim 1, further including at least one protrusion on the outer sleeve for slidably engaging a distraction instrument.
- 25 6. The device of claim 1, further including a depth control member slidably coupled to the outer sleeve, the depth control member for providing a predetermined insertion depth of the implant.

7. The device of claim 1, wherein the grabber includes grabber tips for mechanically engaging the implant.
8. The device of claim 7, wherein the grabber tips are dovetailed in shape.
- 5
9. The device of claim 7, wherein the grabber tips include a first pair of slots for engaging a first engagement tab of the implant and a second pair of slots for engaging a second engagement tab of the implant.
- 10
10. The device of claim 9, wherein the first pair of slots are different in size from the second pair of slots.
11. The device of claim 9, wherein a sizing slot is located between the first pair of slots and the second pair of slots to allow for a variation of tab and slot dimensional differences.
- 15
12. The device of claim 1, wherein the grabber includes at least one marking to identify a position of the implant.
- 20
13. The device of claim 12, wherein the marking is a pin located on a surface of the grabber.
14. The device of claim 12, wherein the marking is a plurality of machined slots on a surface of the grabber.
- 25
15. The device of claim 1, wherein the grabber is removably coupled to the inner shaft.

16. An implant clip, comprising:

- (i) a first member;
- (ii) a second member pivotally coupled to the first member, the coupling causing the implant clip to have a closed position and an open position;
- (iii) a first implant holder, the first implant holder pivotally coupled to the first member; and
- (iv) a second implant holder, the second implant holder pivotally coupled to the second member, a surface of the first implant holder and a surface of the second implant holder remaining substantially parallel to each other while the first member and the second member pivot between the closed position and the open position.

17. The implant clip of claim 16, wherein the first member and the second members

15 are shells.

18. The implant clip of claim 16, wherein each holder defines a depression.

19. The implant clip of claim 18, wherein each depression is angled with respect to

20 its holder.

20. The implant clip of claim 18, wherein each depression is made of a conformable material.

25 21. The implant clip of claim 16, further including a spring located between the first member and the second member, the spring directing the implant clip toward the closed position.

22. The implant clip of claim 16, wherein the second holder includes a pair of pins that slidably engage a respective pair of cylindrical cavities in the first holder, thereby causing the surface of each holder to remain substantially parallel to each other while the first member and the second member pivot between the closed position and the open position.
5
23. The implant clip of claim 16, wherein the first holder and the second holder includes a respective pin and a respective cylindrical cavity that slidably engage each other, thereby causing the surface of each holder to remain substantially parallel to each other while the first member and the second member pivot between the closed position and the open position.
10
24. The implant clip of claim 16, wherein each holder includes at least one alignment protrusion for aligning of an implantation instrument with the implant clip.
15
25. A method of inserting an implant, comprising the steps of:
 - (i) loading an implant in an implant clip;
 - (ii) mechanically engaging an implantation instrument to the implant;
20
 - and
 - (iii) removing the implant from the implant clip.
26. The method of claim 25, wherein the step of loading an implant in an implant clip includes:
 - (i) opening the implant clip;
 - (ii) inserting the implant into the implant clip; and
 - (iii) closing the implant clip.
25

27. The method of claim 25, wherein the step of mechanically engaging the implantation instrument to the implant includes:

- (i) opening a grabber located on an end of the implantation instrument;
- 5 (ii) aligning the grabber with the implant; and
- (iii) closing the grabber to mechanically engage the grabber to the implant.

28. The method of claim 25, further including the steps of:

- 10 (iv) distracting a prepared disc space with a distraction instrument;
- (v) inserting the implant into the prepared disc space with the implantation instrument;
- (vi) releasing the implant from the implantation instrument; and
- (vii) removing the implantation instrument and distraction instrument.

15 29. The method of claim 28, wherein the step of inserting the implant into the prepared disc space includes aligning the implantation instrument with the distraction instrument.

20 30. The method of claim 25, wherein the implant is an artificial disc or a spinal fusion cage.